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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,883

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EXAMINER

TRAN, THAO T

ART UNIT

PAPER NUMBER

1794

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/802,883	Applicant(s) YOSHIDA ET AL.	
	Examiner Thao T. Tran	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 13-15 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 13-15 and 19-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to the Reply filed on 6/10/2008.
2. Claims 1-6, 13-15, 19-28 are currently pending in this application. No change in the claims has been made in this Reply.
3. In view of the prior Office action, the prior art rejections of the claims are maintained as set forth below.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-5, 13, 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skinner et al. (US Pat. 4,342,793).

Skinner discloses curing resins comprising a reactive diluent, a polyol, and a polyisocyanate that are cured both by radiation and heat (abstract). Monofunctional reactive diluents include conventional acrylic monomers (col. 5, lines 36-43). The coatings are applied to substrates, thus suggesting backing layers (col. 9, lines 64-68). Since the reactants are the same as those claimed by the applicant and since the coatings are cured by heat and radiation to form interpenetrating networks, it is the examiner's position that the coatings of the invention would possess the claimed initial elastic modulus properties.

Skinner further discloses that the amount of radiation necessary to cure the reactive diluent depends on the thickness of the coating to be applied and the amount of reactive diluent in the coating composition (see col. 10, ln. 32-34). Therefore, it would have been obvious to one

Art Unit: 1794

of ordinary skill in the art that the thickness of the coating would have been adjusted depending upon user's preference and intended use. Moreover, it is noted that the claimed thickness of 10 to 500 microns is a wide range that would cover the thickness of coating conventionally used in the art.

Regarding the method, the examples show that the polyurethane, polyols, and acrylate monomers are mixed together, coated, irradiated, and thermally cured (at least example 3). Since the polyol and isocyanate monomers would react upon mixing, the reference teaches the claimed process of reacting the components to form a mixture of a polyurethane and a vinyl monomer, coating the mixture, and irradiating the coating. The final thermal cure serves to fully cure the components.

Regarding the "cleaning sheet for removing foreign matter adhering on a tip of a probe needle of a probe card" limitations, it is noted that this is an intended use for the sheet. It is the examiner's position that the coatings of the invention would be capable of wiping debris from a probe needle since it is a solid surface and more specifically because it contains the claimed materials.

With respect to the limitation, "said cleaning layer contains no additives", it is noted that Skinner does not teach the use of an abrasive, the reference thus meets the requirement of this limitation.

With respect to the limitation, "is adapted to receive probe needles", it is the examiner's position that the coatings of the Skinner invention would be capable of being adapted to having the presently recited functions because the coatings are solid surfaces and more specifically because they contain the same claimed materials.

Art Unit: 1794

6. Claims 1-5, 13, 19-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube (US Pat. 6,817,052).

Grube discloses a cleaning sheet for removing debris from probe tips (see abstract), the cleaning sheet comprising an outer surface layer 302 on roller 204 attached to a support arm 202. The outer surface 302 comprises a combination of polymeric materials, such as urethane and acrylic (see col. 7, ln. 10-23). The cleaning sheet can be multilayered and adhered to roller 204 by adhesive (see col. 8, ln. 29-41).

Although Grube is silent with respect to the thickness of the coating, it would have been obvious to one of ordinary skill in the art that the thickness of the coating would have been adjusted depending upon user's preference and intended use. Moreover, it is noted that the claimed thickness of 10 to 500 microns is a wide range that would cover thicknesses conventionally used in the art.

Grube further discloses that arm 202 supports sticky roller 204 and/or an abrasive roller or other surface (see col. 12, ln. 56-57), indicating that the outer surface 302 of roller 204 may be free of abrasive, thus meeting the requirements of the presently claimed invention. In addition, with respect to the newly added limitation, "said cleaning layer contains no additives", Grube also teaches that the cleaning pad can be made from a material having the substantially similar hardness to that of probe (see col. 9, ln. 1-20), the cleaning pad of the reference would not have additives or in an amount that would deteriorate the probe needle.

The reference also discloses that the tips of the probes can go into the cleaning pad (see col. 9, ln. 1-20), thus meeting the requirement of the newly added limitation of the probe tip penetrating the cleaning sheet. Furthermore, with respect to the newly added limitation, "is

Art Unit: 1794

adapted to receive probe needles”, it is noted that this limitation is not positively recited.

And it is the examiner’s position that the outer surface 302 of Grube would be capable of being adapted to having the presently recited functions because the coatings of the reference are solid surfaces and more specifically because they contain the same claimed materials.

7. Claims 3-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube as applied to claims 1-2 and 5 above, in view of Skinner et al.

Grube is as set forth in claims 1-2 and 5 and incorporated herein.

Grube does not specifically teach the polyurethane being formed from a polyol and a polyisocyanate, or that the polymeric mixture being cured by radiation.

Skinner applies as above, teaching polyurethane coating resins that form improved tough and hard coatings on various substrates (abstract). The coatings are formed essentially free from solvent emission and are fully crosslinked (col. 2 lines 64-68). Thus, it would have been prima facie obvious to use the coatings of Skinner's invention as the binder resins of the Grube invention to provide hard, fully crosslinked coatings having improved toughness and solvent emission.

Response to Arguments

8. Applicant's arguments filed on 6/10/2008 have been fully considered but they are not persuasive.

In response to Applicants’ argument that Skinner does not teach the probe needle penetrating the cleaning pad, it is noted that in Skinner, no abrasive additive is used, thus meeting the requirement of the presently claimed invention. Applicants further argue the reference does not teach the cleaning layer being adapted to receive penetrating probe needles

Art Unit: 1794

and remove and retain impurities from a tip of said probe needles, it is noted that since the coatings of the Skinner invention would be capable of being adapted to having the presently recited functions because the coatings are solid surfaces and more specifically because they contain the same claimed materials.

In response to Applicants' arguments that Grube does not teach the cleaning pad containing no additives or in an amount that would deteriorate the probe needle, it is noted that as mentioned above and previously, the reference does teach the cleaning pad made from a material having substantially similar hardness to that of the probe (see col. 9, ln. 1-20), illustrating that the pad, if contains additives, would contain additives in an amount that would not deteriorate the probe needle.

With respect to Applicants' argument that Grube does not teach the probe needle penetrating the cleaning pad, it is noted that by teaching the probe tips pressed against and possibly into the cleaning pad (see col. 9, ln. 1-20), Grube does teach the tips of the probes penetrating the cleaning pad, thus meeting the requirement of the presently claimed invention. With respect to Applicants' argument that Grube teaches the use of tungsten carbide and the material constituting the probe tips are metals, whereas the cleaning sheet of the present invention is made of polymer that is soft and receptive to probe insertion without abrasion, it is first noted that the claim language does not specify what material is used for the probe needle. The claim language is directed to the use of additives in amounts that would not wear out the tip of the probe. It is further noted that in Grube, the abrading pad can be made from a mixture of an elastic base material and abrasive particles (see col. 9, ln. 4-6). Thus, what is taught by Grube would read on the presently claimed invention.

Art Unit: 1794

In addition, since the coatings of both Grube and Skinner references are solid surfaces and more specifically because they contain the same claimed materials, they would inherently be capable of being adapted to receive penetrating probe needles and remove the impurities on the tip of the needles without allowing the debris re-adhering to the needles again.

In response to Applicants' arguments that the coating layer of Grube and Skinner are cured and thus having a tough outer layer that would prevent penetration by a probe, it is noted that the presently claimed invention is also directed to a radiation cured layer, which would impart the same functions and properties as taught by Grube and Skinner.

In response to Applicants' arguments that neither reference teaches that the cleaning sheet containing no additives or in an amount that would deteriorate the probe needle, it is noted that in both Skinner and Grube, no abrasive additive is used. Thus the references meet the requirement of the cleaning sheet having no additives or in an amount that would deteriorate the probe needle.

Thus, Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton I. Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thao T. Tran/
Primary Examiner, Art Unit 1794

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